



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/062,131	02/01/2002	John C. Russell	6885.US.O1	2508
23492	7590	11/01/2005	EXAMINER	
ROBERT DEBERARDINE ABBOTT LABORATORIES 100 ABBOTT PARK ROAD DEPT. 377/AP6A ABBOTT PARK, IL 60064-6008			CEPERLEY, MARY	
			ART UNIT	PAPER NUMBER
			1641	

DATE MAILED: 11/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/062,131

Applicant(s)

RUSSELL, JOHN C.

Examiner

Mary (Molly) E. Ceperley

Art Unit

1641

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 August 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Art Unit: 1641

1) The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2) Claims 1 and 30 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claims are indefinite in the use of the term "suspended or soluble protein conjugate". First, the conditions under which the conjugate is "suspended or soluble" are unspecified thus rendering the claim indefinite. Second, the use of the term "protein" as part of the "conjugate" is inconsistent with the fact that neither the "First Macromolecule" nor the "Second Macromolecule" is required to be a "protein". Third, the claims do not recite any step which would result in "making a suspended or soluble protein conjugate". The claims recite only a sequence of steps for preparing a "conjugate" comprised of a "First Macromolecule" and a "Second Macromolecule"; since neither the "First Molecule" nor the "Second Macromolecule" is required to be "suspended" or "soluble", it is unclear that the recited steps would necessarily produce a "conjugate" which is "suspended or soluble" (conditions unspecified).

3) The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4) Claims 1 and 30 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for the preparation of "conjugates" under conditions as described in the working examples, does not reasonably provide enablement for the limitation "wherein each step of the method is performed under aqueous conditions". The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make the invention commensurate in

Art Unit: 1641

scope with these claims. The claims are inconsistent with the enabling written description of the specification. Although paragraph [0018] of the specification describes the process being "preferably performed under aqueous conditions", the working examples are inconsistent with this process limitation. For example, paragraphs [0091] - [0093] describe the activation of both the phycoerythrin reactant and the alkaline phosphatase reactant in dimethylformamide, an organic solvent.

5) The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

6) Claims 1 and 30 are rejected under 35 USC 102(e) as being anticipated by Yu et al (US 6,592,105) for the reasons of record (paragraph **2)** of the March 07, 2005 Office action).

At page 6 of the August 09, 2005 Remarks, applicants argue that in the process of Yu et al "the release conditions are specifically chosen in order to dissociate the hydrazide-containing polypeptide bound to the solid support from the factor VIII-like polypeptide". While the reference does describe such a process, Yu et al also describe the case in which the bond between the polypeptide (corresponding to conjugate of "First Macromolecule" and "Second Macromolecule") and the solid support is disrupted. See col. 14, lines 40-47; col. 13, lines 52-62. With regard to applicants' statement at page 5 of the Remarks that "the synthesis described in Yu et al. is carried out under conditions that are substantially different from those conditions employed in the method of the present invention", it is noted that the claim 30 does not recite any type of reaction conditions and thus is not distinguishable from the Yu et al process. The aqueous conditions of claim 1 are unsupported by the specification (see the above rejection under 35 USC 112); however, Yu et al describe pH adjustment under aqueous conditions so that "the polypeptide takes its desired conformational arrangement" thus suggesting that aqueous conditions are useful for maintaining peptides in active conformation (col. 13, lines 61-62). The claim 30 limitation that "the First Macromolecule " has "a molecular weight of at least 2,000 daltons" is considered to be inherent to the polypeptide reactants of Yu et al.

Art Unit: 1641

7) Claims 1 and 30 are rejected under 35 U.S.C. 102(e) as being anticipated by Schwartz (US 2003/0013857 A1) for the reasons of record (paragraph **3**), March 07, 2005 Office action).

In the paragraph bridging pages 7 and 8 of the August 09, 2005 Remarks applicants describe the Schwartz et al reference. Applicants then characterize Schwartz as not disclosing a method for preparing a conjugate in which "(2) a second macromolecule is linked to the first macromolecule through a non-cleavable linker"; however, step d) of claim 1 of this application requires only the formation of "a covalent bond" between the "First Macromolecule" and the "Second Macromolecule" and does not describe any "cleavable" aspect of the bond. For a description of the formation of a covalent bond between two biomolecules ("First Macromolecule" and "Second Macromolecule") see Schwartz, paragraph [0016] wherein "the modified biomolecules are available for conjugation or immobilization using the remaining functional group".

8) Claims 1 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Merrifield (AK) for the reason stated in paragraph **5**) of the March 07, 2005 Office action.

Applicants argue that the Merrifield process differs from the claimed process (Remarks, pages 9 and 10). However, the actual claim language does not patentably distinguish from the process of Merrifield, i.e. a "covalent bond" exists between the polypeptides of Merrifield (as described in step d) of claim 1); the nature of the materials being coupled is the same (amino acid reactants) ("First Macromolecule" and "Second Macromolecule" defined as peptides/proteins which are composed of amino acids); the reaction conditions of claim 30 are unspecified (thus not distinguishing from Merrifield) and the reaction conditions of claim 1 are unsupported by the specification. The analysis of paragraph **10**) of the July 27, 2004 Office action still applies to this rejection. It is noted that the dimethylformamide solvent of Merrifield discussed by applicants is used in the method claimed in this application (see paragraph **4**) above).

Art Unit: 1641

9) Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mary (Molly) E. Ceperley whose telephone number is (571) 272-0813. The examiner can normally be reached from 8:30 a.m. to 5:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Long V. Le, can be reached on (571) 272-0823. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

October 28, 2005



Mary (Molly) E. Ceperley
Primary Examiner
Art Unit 1641